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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/376,173	08/17/1999	ALAN L. TAYLOR	1956/123	6112

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EXAMINER

ZHEN, LI B

ART UNIT	PAPER NUMBER
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2126

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/376,173

Applicant(s)

TAYLOR ET AL.

Examiner

Li B. Zhen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 9, 10, 18 – 21 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,734,903 to Saulpaugh in view of IBM Technical Disclosure Bulletin No. NN9607229 [hereinafter "IBM"].

As to claim 1, Saulpaugh teaches a device [system 10, Fig. 1; col. 4, lines 20 – 40] comprising a message passing service [object oriented message filtering unit 40, Fig. 1; col. 4, lines 20 – 40] for communication services between a client application [client task] and a target [server task] application [object oriented message filtering unit 40 facilitates the transfer of a message from a client task 32 to one or more server tasks 34, Fig. 1; col. 4, lines 46 – 60], comprising:

application blocking logic to block the client application for supporting synchronous communication services for the client application [in response to either type of synchronous send message request, the message transaction unit 44 blocks the sending client task 32; col. 11, lines 7 – 40]; and

asynchronous signaling logic [message transaction unit] to notify the client application of asynchronous events for supporting asynchronous communication services for the client application [each type of asynchronous send message request

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additionally specifies...event notification information that indicates how the message transaction unit 44 is to notify the client task 32 when the message transaction is complete; col. 11, lines 40 – 52]. As to logic to unblock the client application, Saulpaugh teaches the message transaction unit blocks the sending client task until the message transaction has completed [col. 11, lines 15 – 20] and sending a reply to the client application [message transaction unit 44 issues a final reply to the client task 32 that originally sent the message; col. 16, line 60 – col. 17, line 5] but does not specifically teaches unblocking the client application.

However, IBM teaches synchronous client-server communication [p. 1, 1st paragraph], blocking [synchronous...the client process is blocked till the replies are received; p. 2, 4th paragraph, 1st bullet] and unblocking the client [the client process is unblocked when a reply arrives; p. 2, last paragraph].

It would have been obvious to a person of ordinarily skilled in the art at the time of the invention to apply the teaching of unblocking the client when a reply arrives as taught by IBM to the invention of Saulpaugh because this would allow the client application to respond to the reply accordingly or continue with other operations.

As to claim 10, this is a product claim that corresponds to apparatus claim 1; note the rejection to claim 1 above, which also meets this product claim.

As to claim 27, this is a system claim that corresponds to apparatus claim 1; note the rejection to claim 1 above, which also meets this system claim.

As to claim 9, Saulpaugh teaches the device is a storage processor for operation in a storage unit [system 10 comprises a processing unit 12...a predetermined amount of memory 18; col. 4, lines 20 – 30 and 40 – 46].

As to claim 18, Saulpaugh as modified teaches a plurality of interconnected processors [distributed client-server environment; p. 1, 1st paragraph of IBM], synchronous communication services between a client application [client tasks can send messages synchronously; col. 8, lines 65 – 67 of Saulpaugh] and a target application [transfer of a message from a client task 32 to one or more server tasks 34, Fig. 1; col. 4, lines 46 – 60 of Saulpaugh], the message passing method comprising:

receiving from the client application a request for a synchronous communication service, blocking the client application [in response to either type of synchronous send message request, the message transaction unit 44 blocks the sending client task 32; col. 11, lines 7 – 40 of Saulpaugh], completing the requested synchronous communication service [message transaction unit 44 issues a final reply to the client task 32 that originally sent the message; col. 16, line 60 – col. 17, line 5 of Saulpaugh]. As to unblocking the client application, see the rejection to claim 1 above.

As to claim 19, this is similar to claim 18 with additional limitations, see the rejection to claim 18 above. As to the additional limitations, Saulpaugh as modified teaches sending the synchronous message to the target application [delivering the send message control block to the target message object; col. 3, lines 15 – 26 of Saulpaugh].

As to claim 20, Saulpaugh as modified teaches receiving a request from the client application for receiving a synchronous message from the target application [in

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response to either type of synchronous send message request, the message transaction unit 44 blocks the sending client task 32; col. 11, lines 7 – 40 of Saulpaugh], and blocking the client application if the received message is unavailable [blocks the sending client task until the message transaction has completed; col. 11, lines 15 – 20 of Saulpaugh].

As to claim 21, Saulpaugh as modified teaches receiving a synchronous message for the client application from the target application and passing the synchronous message to the client application [message transaction unit 44 issues a final reply to the client task 32 that originally sent the message; col. 16, line 60 – col. 17, line 5 of Saulpaugh]. As to unblocking the client application, see the rejection to claim 1 above.

3. Claims 2 – 8, 11 – 17 and 22 – 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saulpaugh and IBM further in view of U.S. Patent No. 6,401,109 to Heiney.

As to claims 2 and 11, Saulpaugh as modified teaches providing synchronous communication services for the client application using the application blocking logic, and providing asynchronous communication services for the client application using the asynchronous signaling logic [see the rejection to claim 1 above]. Saulpaugh as modified does not specify session control logic to open and close a message passing service session.

However, Heiney teaches [column 8, line 50 – column 9, line 5] session control logic to open [virtual socket session is instantiated, step 93, Fig. 9] a message passing

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service session. As to closing a session, the session would obviously be close when communication is finished.

It would have been obvious to a person of ordinarily skilled in the art at the time of the invention to apply the teaching of session control logic to open and close a message passing service session as taught by Heiney to the invention of Saulpaugh as modified because a session allows two communication end points to interact with each other and take turns exchanging commands and data.

As to claims 3 and 12, Saulpaugh as modified teaches synchronous message sending logic to block the client application upon sending a synchronous message to the target application [in response to either type of synchronous send message request, the message transaction unit 44 blocks the sending client task 32; col. 11, lines 7 – 40 of Saulpaugh], and unblock the client application upon receiving a confirmation from the target application over the message passing service session [the client process is unblocked when a reply arrives; p. 2, last paragraph of IBM].

As to claims 4 and 13, Saulpaugh as modified teaches synchronous message receiving logic to block the client application using the application blocking logic [in response to either type of synchronous send message request, the message transaction unit 44 blocks the sending client task 32; col. 11, lines 7 – 40 of Saulpaugh] if a synchronous message is unavailable for the client application [blocks the sending client task until the message transaction has completed; col. 11, lines 15 – 20 of Saulpaugh].

As to claims 5 and 14, Saulpaugh as modified teaches synchronous message receiving logic unblocks [see the rejection to claim 1] the client application upon receiving a synchronous message for the client application [message transaction unit 44 issues a final reply to the client task 32 that originally sent the message; col. 16, line 60 – col. 17, line 5 of Saulpaugh].

As to claims 6 and 15, Saulpaugh as modified teaches asynchronous message sending logic to send an asynchronous message to the target application [client tasks can send messages synchronously or asynchronously; col. 8, lines 65 – 67; col. 12, lines 49 – 65 of Saulpaugh] and notify the client application via the asynchronous signaling logic upon receiving a confirmation from the target application over the message passing service session [each type of asynchronous send message request additionally specifies...event notification information that indicates how the message transaction unit 44 is to notify the client task 32 when the message transaction is complete; col. 11, lines 40 – 52 of Saulpaugh].

As to claims 22 and 25, Saulpaugh as modified teaches a computer system having a plurality of interconnected processors[distributed client-server environment; p. 1, 1st paragraph of IBM], providing asynchronous communication services between a client application and a target application [col. 11, lines 7 – 40 of Saulpaugh], the message passing method comprising:

receiving a request from the client application for sending an asynchronous message to the target application [asynchronous send message request; col. 12, lines 49 – 65 of Saulpaugh] ;

sending the asynchronous message to the target application over the session [delivering the send message control block to the target message object; col. 3, lines 15 – 26 of Saulpaugh];

receiving a confirmation from the target application over the session and notifying the client application using an asynchronous signaling mechanism [each type of asynchronous send message request additionally specifies...event notification information that indicates how the message transaction unit 44 is to notify the client task 32 when the message transaction is complete; col. 11, lines 40 – 52 of Saulpaugh]. As to a session between the client application and the target application, see the rejection to claim 2 above.

As to claims 7, 16 and 23, Saulpaugh as modified teaches a "callback" routine [the client side the receive method accepts the result data and since a callback was supplied in object 23 the result data is routed to the receive method in the designated object at the client; col. 4, lines 15 - 35 of Heiney] provided to the message passing service by the client application [each type of asynchronous send message request additionally specifies...event notification information that indicates how the message transaction unit 44 is to notify the client task 32 when the message transaction is complete; col. 11, lines 40 – 52 of Saulpaugh].

As to claims 8, 17 and 24, Saulpaugh teaches the asynchronous signaling logic invoking the "callback" routine [a callback was supplied in object 23 the result data is routed to the receive method in the designated object at the client; col. 4, lines 15 - 35 of Heiney] when an asynchronous event is available for the client application [each type

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of asynchronous send message request additionally specifies...event notification information that indicates how the message transaction unit 44 is to notify the client task 32 when the message transaction is complete; col. 11, lines 40 – 52 of Saulpaugh].

As to claims 26, Saulpaugh as modified teaches notifying the client application using the asynchronous signaling mechanism [see claim 22]. As to closing the session, see the rejection to claim 2 above.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A. Follansbee can be reached on (703) 305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

lbz
October 31, 2003



**JOHN FOLLANSBEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100**

Li B. Zhen
Examiner
Art Unit 2126